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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/569,552

02/27/2006

Yoshimasa Hashimoto

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Patrick G. Burns  
Greer, Burns & Crain, Ltd.  
Suite 2500  
300 South Wacker Drive  
Chicago, IL 60606

EXAMINER

MAKI, STEVEN D

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

03/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/569,552		HASHIMOTO ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Steven D. Maki		1791	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>022706</u> .  | 6) <input type="checkbox"/> Other: ____.                          |

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1) Figures 12, 13 and 14 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4) **Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Beckmann et al (US 5,350,001).**

Beckmann et al discloses a vehicle tire having a tread comprising land portions. The land portions may be blocks or ribs. Incisions are disposed in each land portion. The incision is formed using an embossed lamella metal sheet having a thickness of 0.4

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mm to 0.8 mm. The incisions therefore have a width of 0.4 mm to 0.8 mm. Such incisions are also described by one of ordinary skill in the art as sipes. In the embodiment of **Figures 1a and 1b**, the lamella sheet has bending lines 3. Each bending line defines a waveform. The embossing depth p is 0.5 mm to 3.0 mm. The bending angle gamma is 150-90 degrees such as 120 degrees. An angle gamma of 120 degrees corresponds to a tilt angle theta of 30 degrees. The spacing between the wave forms is 0.5 mm to 3.0 mm. The waveforms are displaced by an amount C. Since B and C describe the same distance (see figure 1a), displacement amount C equals 0.5 mm to 3.0 mm. The amplitude A of the waveform is C/2 to 3C. The amplitude A is therefore 0.25 mm to 6.0 mm. The amplitude A is the amplitude of the waveform in the radial direction. In the embodiment of **Figures 3a and 3b**, the lamella sheet is defined by bending lines 3" and bending lines 4'. The resulting lamella sheet (figure 3b) defines a zigzag shape with an amplitude p (amplitude "X") in the tire circumferential direction and a zigzag shape with an amplitude C" (amplitude "T") in the radial direction. The sipe made by the lamella sheet embodiment of Figure 3a and 3b is a "3-D sipe".

The claimed tire is anticipated by Beckmann et al's tire having sipes in blocks made using the lamella sheet embodiment of Figures 3a and 3b. It is noted for example that Figure 3a of Beckmann et al corresponds to Figure 8a of applicant's disclosure. The bent portions are anticipated by the portions of the sipe defined by the zigzag bending lines 3" (Figure 3b). As can be seen from figure 3b, bending lines 3" exist at at least three positions in the radial direction. One of ordinary skill in the art would have

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readily understood that the vehicle tire is a pneumatic tire. In any event, it would have been obvious to one of ordinary skill in the art to form Beckmann et al's sipes shaped by the lamella embodiment of Figures 3a and 3b in each of blocks of a tread of a pneumatic tire since (1) Beckmann et al teaches forming 3-D incisions (3-D sipes) in blocks of a tread of a vehicle tire using lamella sheets such as that shown in Figure 3b to improve handling and suppress wear and (2) it is taken as well known / conventional per se in the tire art to form sipes in each of blocks defined by circumferential and transverse grooves of a tread of a pneumatic so that the pneumatic tire has improved anti-skid / braking properties.

As to claim 2, Beckmann et al suggests a tilt angle  $\theta$  of 30 degrees, an embossing depth ("amplitude") of 0.5 to 3.0 mm. When each of displacement amount C and spacing B are 3 mm, then amplitude A may be  $C/2 = 3 \text{ mm} / 2 = 1.5 \text{ mm}$ .

**5) Claims 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beckmann et al (US 5,350,001) as applied above and in view of Lagnier 965 (US 4,794,965) and Lagnier 002 (US 5,783,002).**

As to claims 3-9, it would have been obvious to change the zigzag trace defined by bending lines 4" of Beckmann et al's figure 3b embodiment such that the tilt angle is smaller closer to the bottom of the sipe (claims 3-5) or the amplitude is smaller closer the bottom of the sipe (claims 6-9) since (1) Lagnier 965, also directed to sipes for a tire tread, suggests decreasing amplitude "a" and angles  $\theta$  in the depth direction toward the bottom of a zigzag trace of a sipe (Figure 3A) to regulate rigidity and obtain greater uniformity of wear and (2) Lagnier 002, also directed to sipes for tire treads, teaches

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that the amplitude of a zigzag trace of a 3-D sipe may vary in the depth direction (radial direction). See column 4 of Lagnier 002.

**6) Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beckmann et al (US 5,350,001) in view of Lagnier 965 (US 4,794,965) and Lagnier 002 (US 5,783,002) as applied above and further in view of Japan 511 (JP 09-323511).**

As to claims 10 and 11, it would have been obvious to one of ordinary to provide Beckmann et al's blocks with the claimed shallow grooves since Japan 511 suggests using auxiliary sipes 11 having a depth less than 1.5 mm and zigzag sipes in blocks of a tire tread to improve performance on ice. The description of "vertical portion extending in a normal line direction" does not limit claims 10 and 11 to the sipe having a portion oriented at 90 degrees to the tread surface.

#### Remarks

- 7) The remaining references are of interest.
- 8) No claim is allowed.
- 9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven D. Maki/  
Primary Examiner, Art Unit 1791

Steven D. Maki  
March 25, 2008